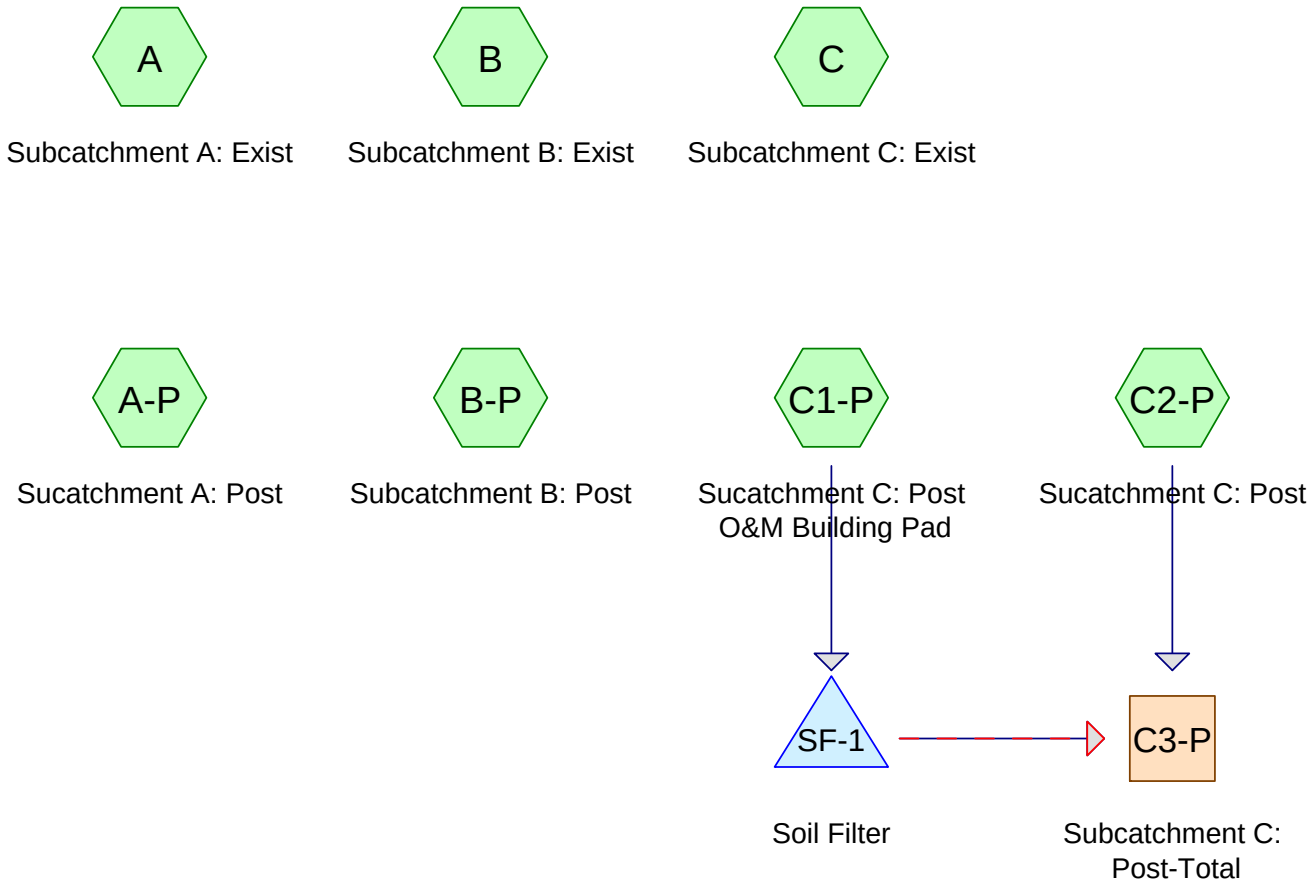

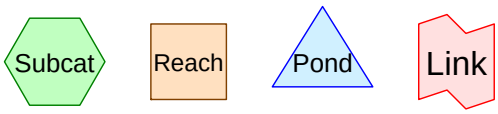

Drainage Diagram for Canton Mountain Wind Site Stormwater Analysis _05-15-2012

Prepared by {enter your company name here}, Printed 7/3/2012

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5,951.131	70	Woods, Good, HSG C (A, A-P, B, B-P, C, C2-P)
4.603	89	Gravel roads, HSG C (A-P, B-P, C1-P)
0.138	91	Gravel roads, HSG D (C2-P)
5,955.872		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
5,955.734	HSG C	A, A-P, B, B-P, C, C1-P, C2-P
0.138	HSG D	C2-P
0.000	Other	
5,955.872		**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A: Subcatchment A: Exist Runoff Area=530.094 ac 0.00% Impervious Runoff Depth>1.71"
Tc=45.0 min CN=70 Runoff=529.57 cfs 75.497 af

Subcatchment A-P: Sucatchment A: Post Runoff Area=530.094 ac 0.00% Impervious Runoff Depth>1.71"
Tc=45.0 min CN=70 Runoff=529.57 cfs 75.497 af

Subcatchment B: Subcatchment B: Exist Runoff Area=2,441.000 ac 0.00% Impervious Runoff Depth>1.71"
Tc=45.0 min CN=70 Runoff=2,438.57 cfs 347.652 af

Subcatchment B-P: Subcatchment B: Runoff Area=2,441.000 ac 0.00% Impervious Runoff Depth>1.71"
Tc=45.0 min CN=70 Runoff=2,438.57 cfs 347.652 af

Subcatchment C: Subcatchment C: Exist Runoff Area=6.842 ac 0.00% Impervious Runoff Depth>1.71"
Tc=45.0 min CN=70 Runoff=6.84 cfs 0.974 af

Subcatchment C1-P: Sucatchment C: Post Runoff Area=0.241 ac 0.00% Impervious Runoff Depth>3.34"
Tc=45.0 min CN=89 Runoff=0.46 cfs 0.067 af

Subcatchment C2-P: Sucatchment C: Post Runoff Area=6.601 ac 0.00% Impervious Runoff Depth>1.71"
Tc=45.0 min CN=70 Runoff=6.59 cfs 0.940 af

Reach C3-P: Subcatchment C: Post-Total Inflow=6.84 cfs 1.005 af
Outflow=6.84 cfs 1.005 af

Pond SF-1: Soil Filter Peak Elev=485.13' Storage=686 cf Inflow=0.46 cfs 0.067 af
Primary=0.00 cfs 0.000 af Secondary=0.29 cfs 0.065 af Outflow=0.29 cfs 0.065 af

Total Runoff Area = 5,955.872 ac Runoff Volume = 848.279 af Average Runoff Depth = 1.71"
100.00% Pervious = 5,955.872 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A: Subcatchment A: Exist

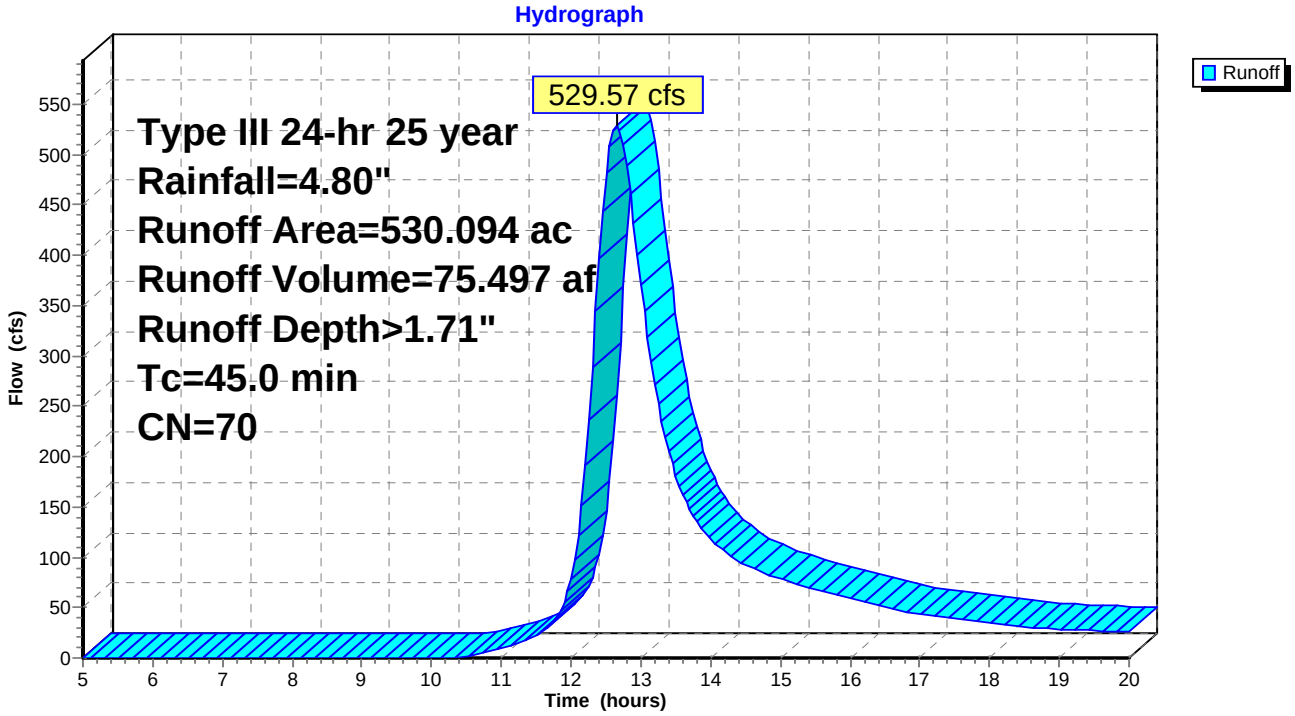
Runoff = 529.57 cfs @ 12.65 hrs, Volume= 75.497 af, Depth> 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=4.80"

Area (ac)	CN	Description
530.094	70	Woods, Good, HSG C
530.094		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.0					**Direct Entry,**

Subcatchment A: Subcatchment A: Exist



Summary for Subcatchment A-P: Sucatchment A: Post

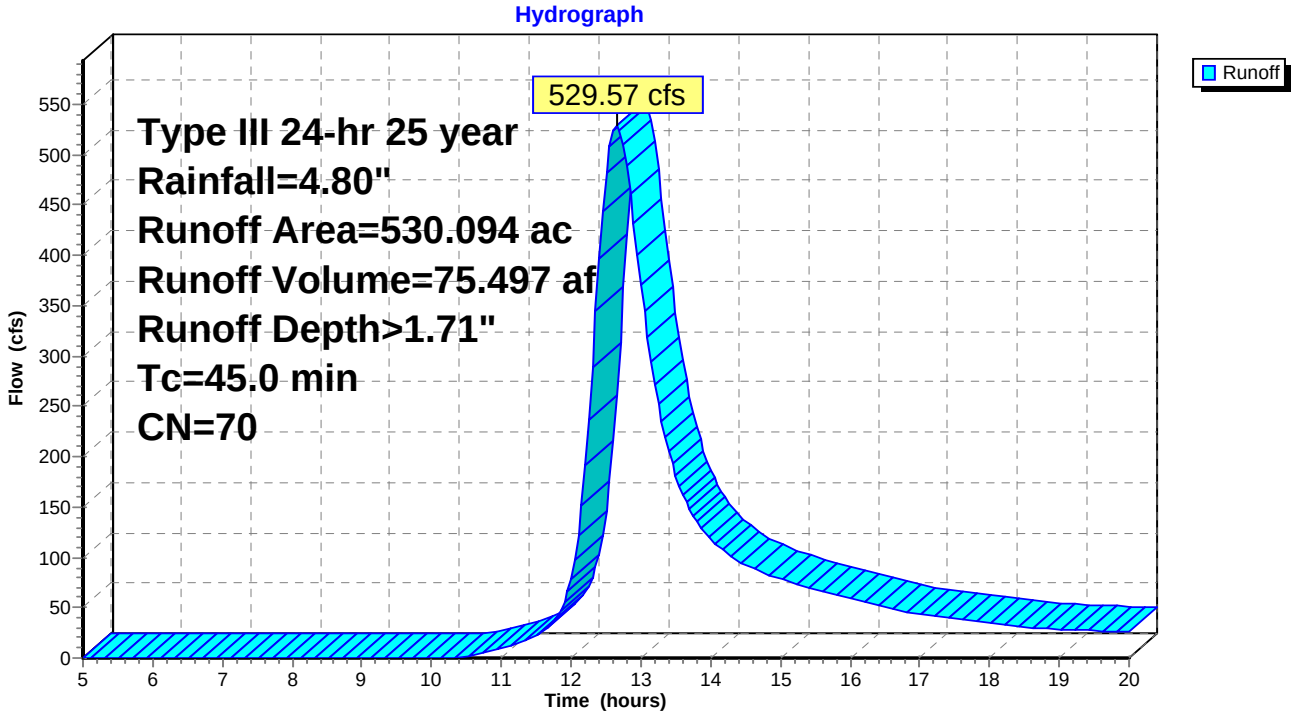
Runoff = 529.57 cfs @ 12.65 hrs, Volume= 75.497 af, Depth> 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=4.80"

Area (ac)	CN	Description
527.798	70	Woods, Good, HSG C
2.296	89	Gravel roads, HSG C
530.094	70	Weighted Average
530.094		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.0					**Direct Entry,**

Subcatchment A-P: Sucatchment A: Post



Summary for Subcatchment B: Subcatchment B: Exist

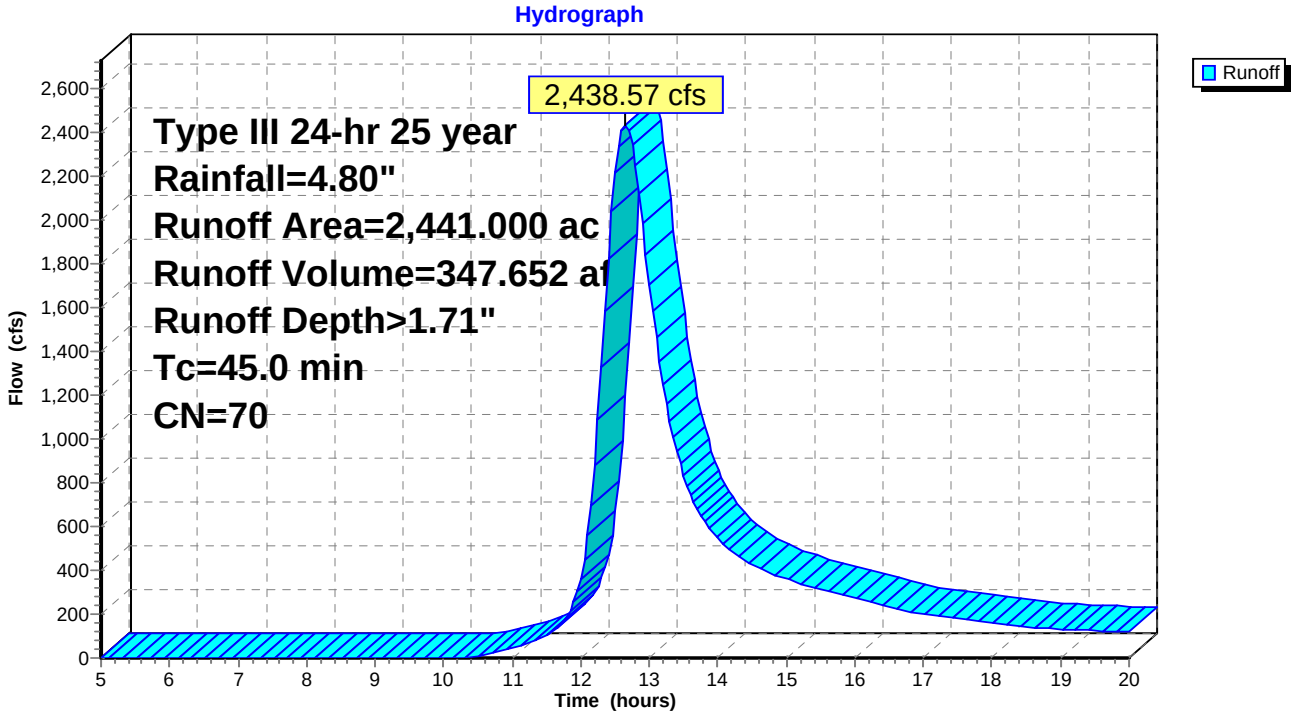
Runoff = 2,438.57 cfs @ 12.65 hrs, Volume= 347.652 af, Depth> 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=4.80"

Area (ac)	CN	Description
2,441.000	70	Woods, Good, HSG C
2,441.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.0					**Direct Entry,**

Subcatchment B: Subcatchment B: Exist



Summary for Subcatchment B-P: Subcatchment B: Post

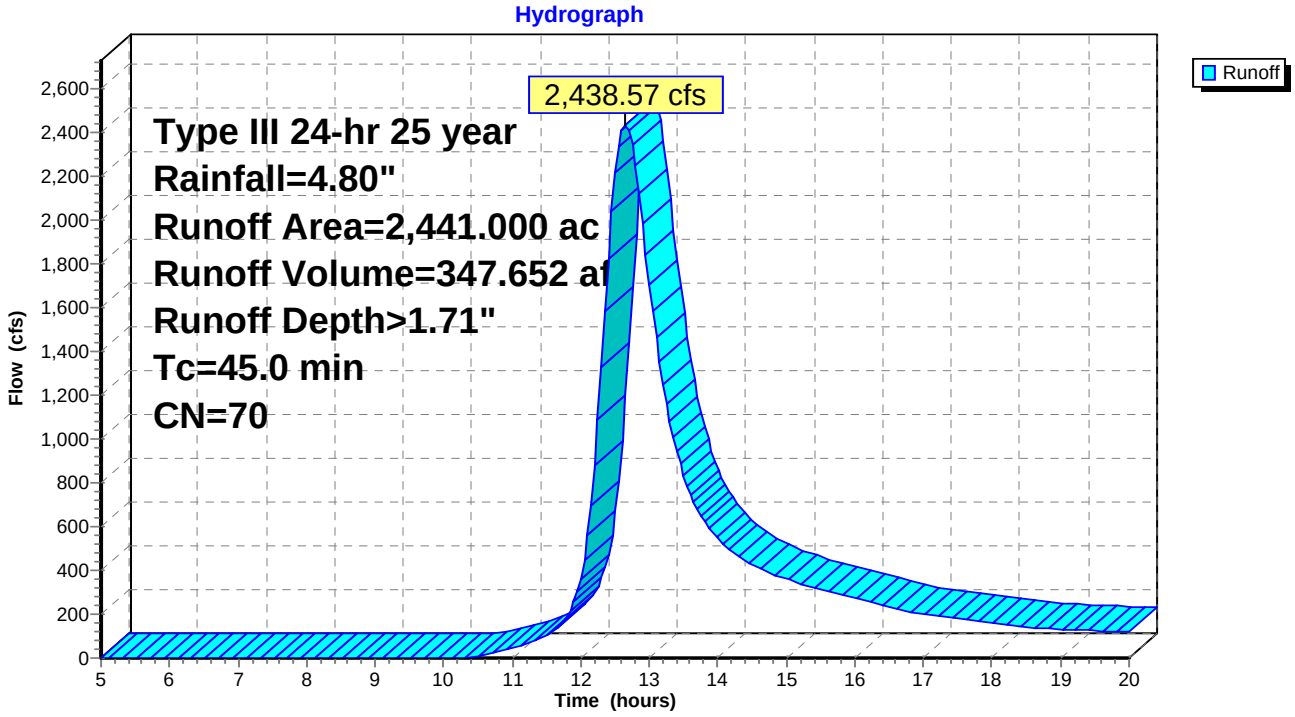
Runoff = 2,438.57 cfs @ 12.65 hrs, Volume= 347.652 af, Depth> 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=4.80"

Area (ac)	CN	Description
2,438.934	70	Woods, Good, HSG C
2.066	89	Gravel roads, HSG C
2,441.000	70	Weighted Average
2,441.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.0					**Direct Entry,**

Subcatchment B-P: Subcatchment B: Post



Summary for Subcatchment C: Subcatchment C: Exist

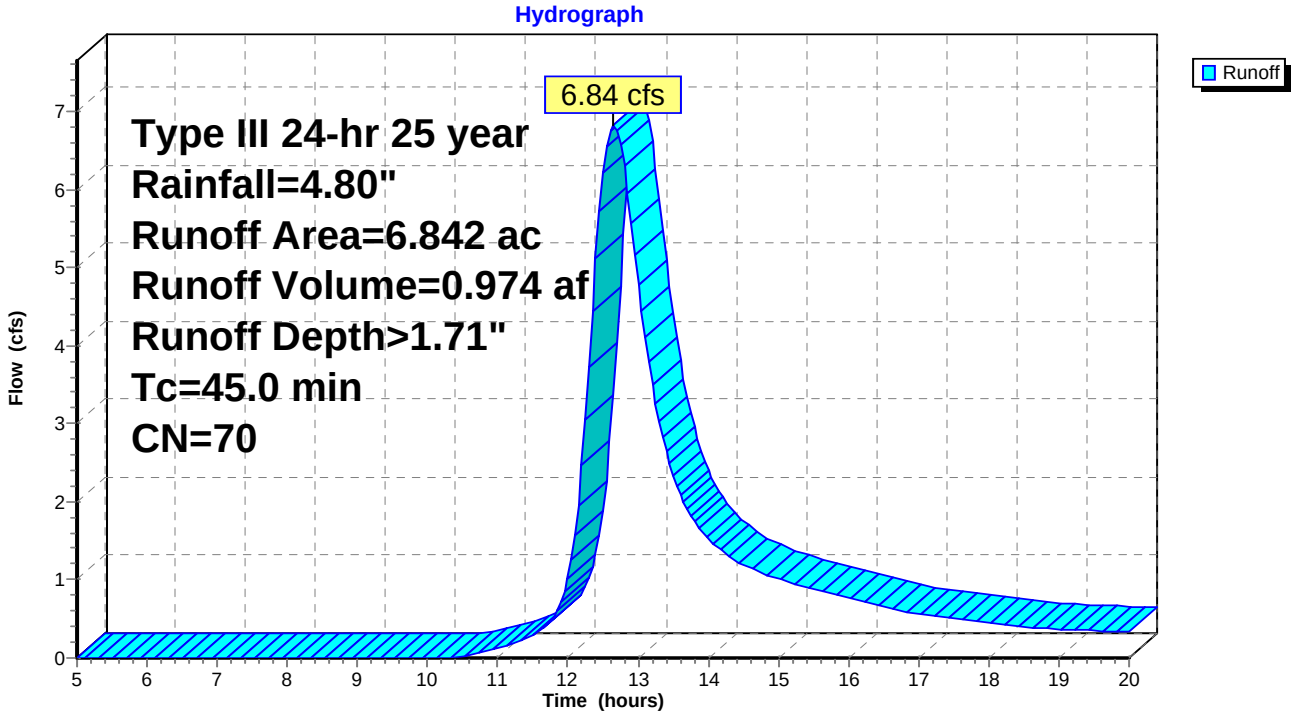
Runoff = 6.84 cfs @ 12.65 hrs, Volume= 0.974 af, Depth> 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=4.80"

Area (ac)	CN	Description
6.842	70	Woods, Good, HSG C
6.842		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.0					**Direct Entry,**

Subcatchment C: Subcatchment C: Exist



Summary for Subcatchment C1-P: Sucatchment C: Post O&M Building Pad

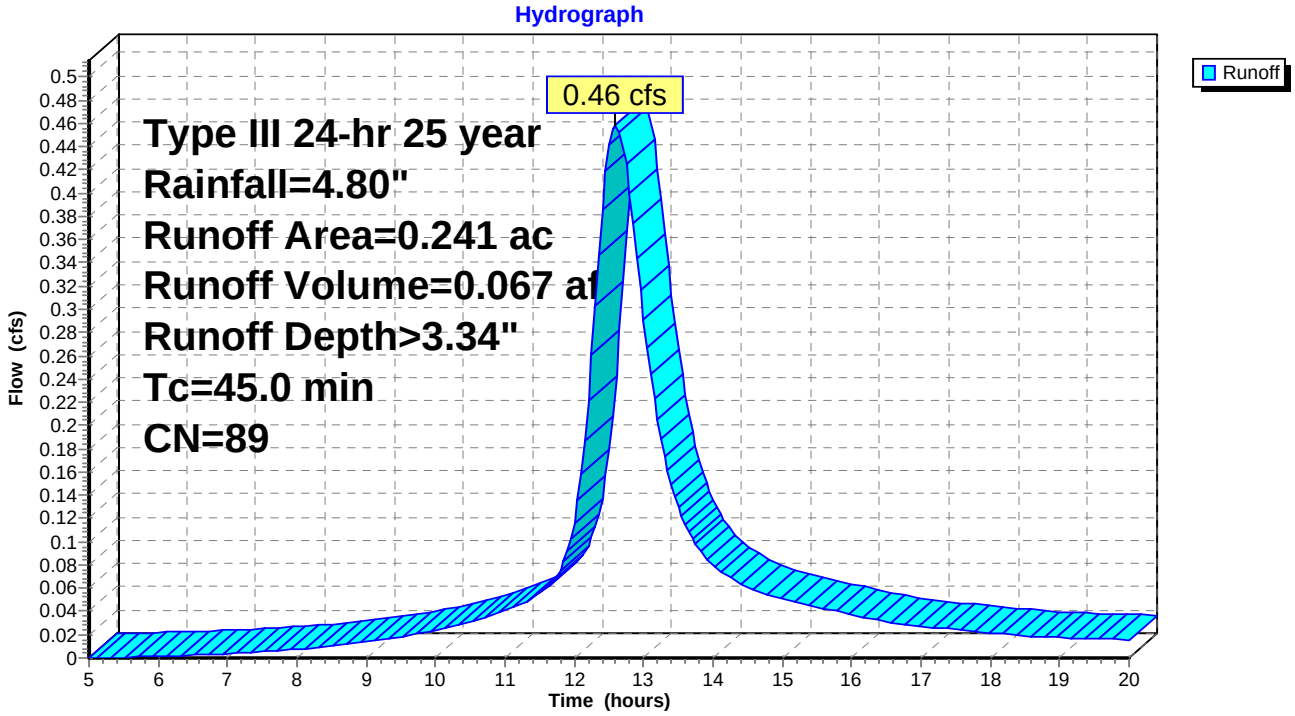
Runoff = 0.46 cfs @ 12.60 hrs, Volume= 0.067 af, Depth> 3.34"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=4.80"

Area (ac)	CN	Description
0.241	89	Gravel roads, HSG C
0.241		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.0					**Direct Entry,**

Subcatchment C1-P: Sucatchment C: Post O&M Building Pad



Summary for Subcatchment C2-P: Sucatchment C: Post

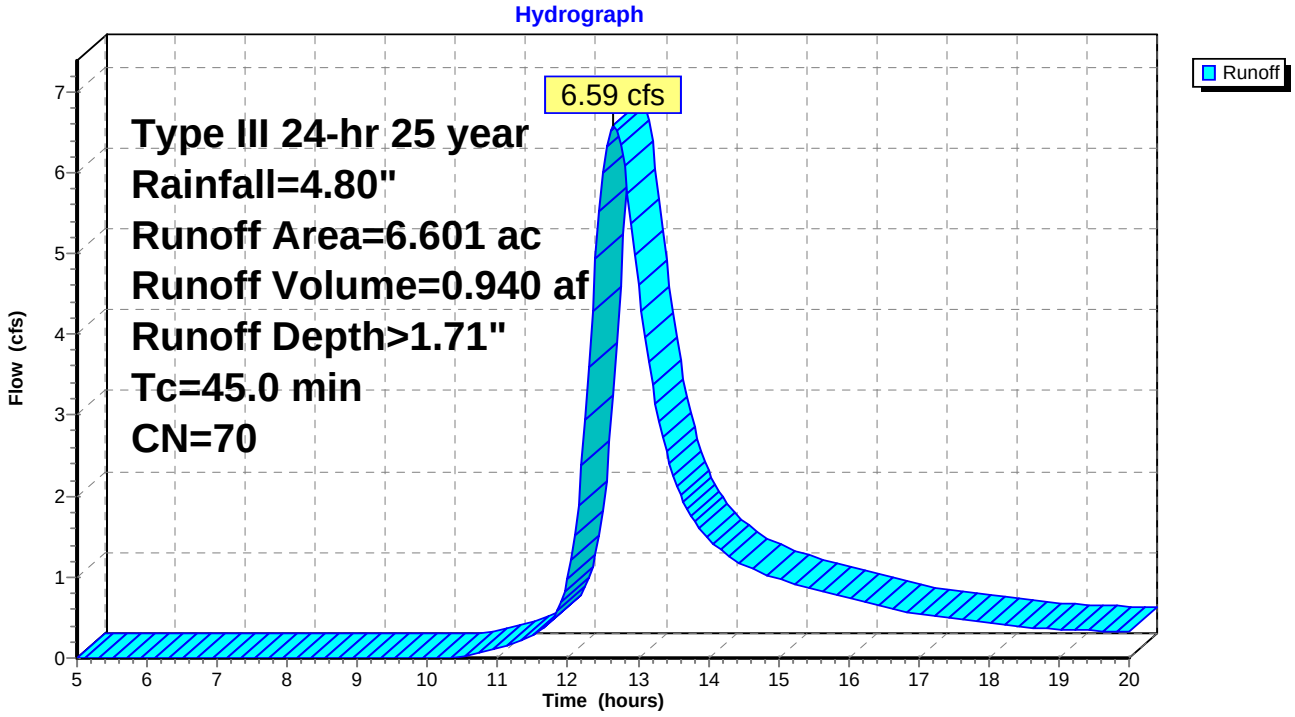
Runoff = 6.59 cfs @ 12.65 hrs, Volume= 0.940 af, Depth> 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=4.80"

Area (ac)	CN	Description
6.463	70	Woods, Good, HSG C
0.138	91	Gravel roads, HSG D
6.601	70	Weighted Average
6.601		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.0					**Direct Entry,**

Subcatchment C2-P: Sucatchment C: Post



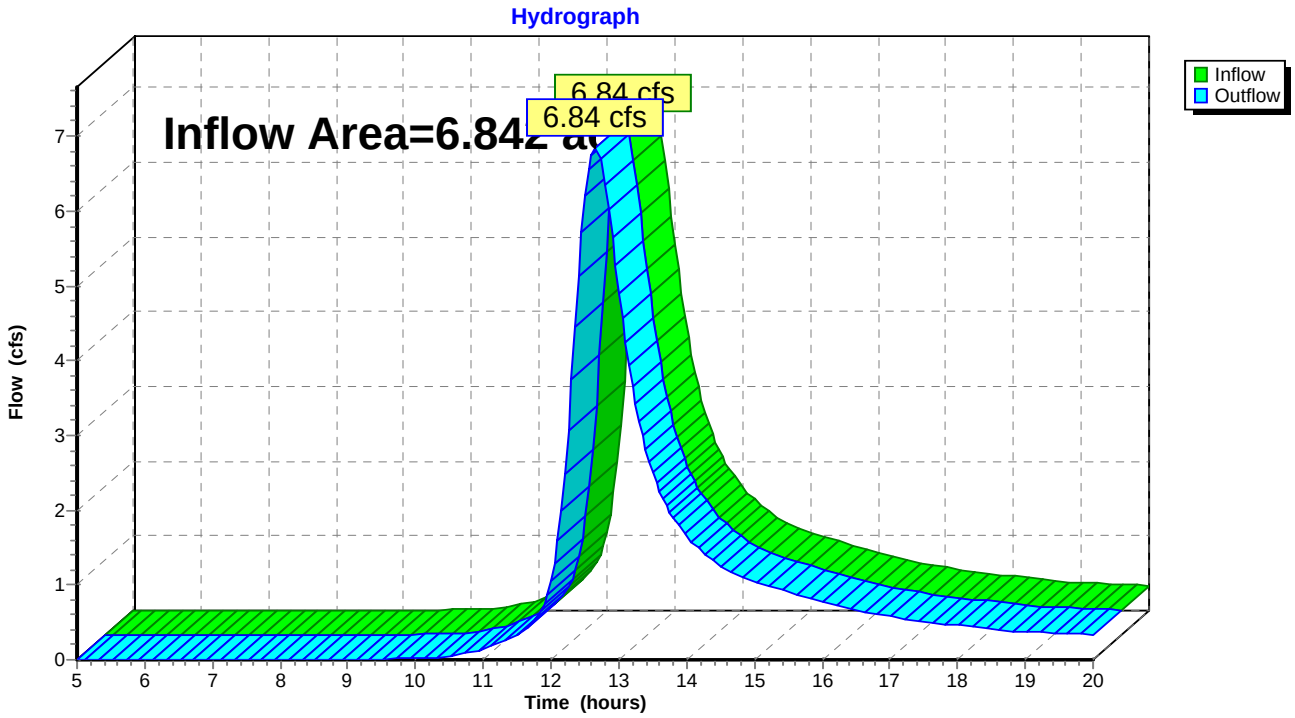
Summary for Reach C3-P: Subcatchment C: Post-Total

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.842 ac, 0.00% Impervious, Inflow Depth > 1.76" for 25 year event
Inflow = 6.84 cfs @ 12.65 hrs, Volume= 1.005 af
Outflow = 6.84 cfs @ 12.65 hrs, Volume= 1.005 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach C3-P: Subcatchment C: Post-Total



Summary for Pond SF-1: Soil Filter

Inflow Area =	0.241 ac,	0.00% Impervious,	Inflow Depth >	3.34" for 25 year event
Inflow =	0.46 cfs @	12.60 hrs,	Volume=	0.067 af
Outflow =	0.29 cfs @	13.01 hrs,	Volume=	0.065 af, Atten= 38%, Lag= 24.6 min
Primary =	0.00 cfs @	5.00 hrs,	Volume=	0.000 af
Secondary =	0.29 cfs @	13.01 hrs,	Volume=	0.065 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 485.13' @ 13.01 hrs Surf.Area= 1,235 sf Storage= 686 cf

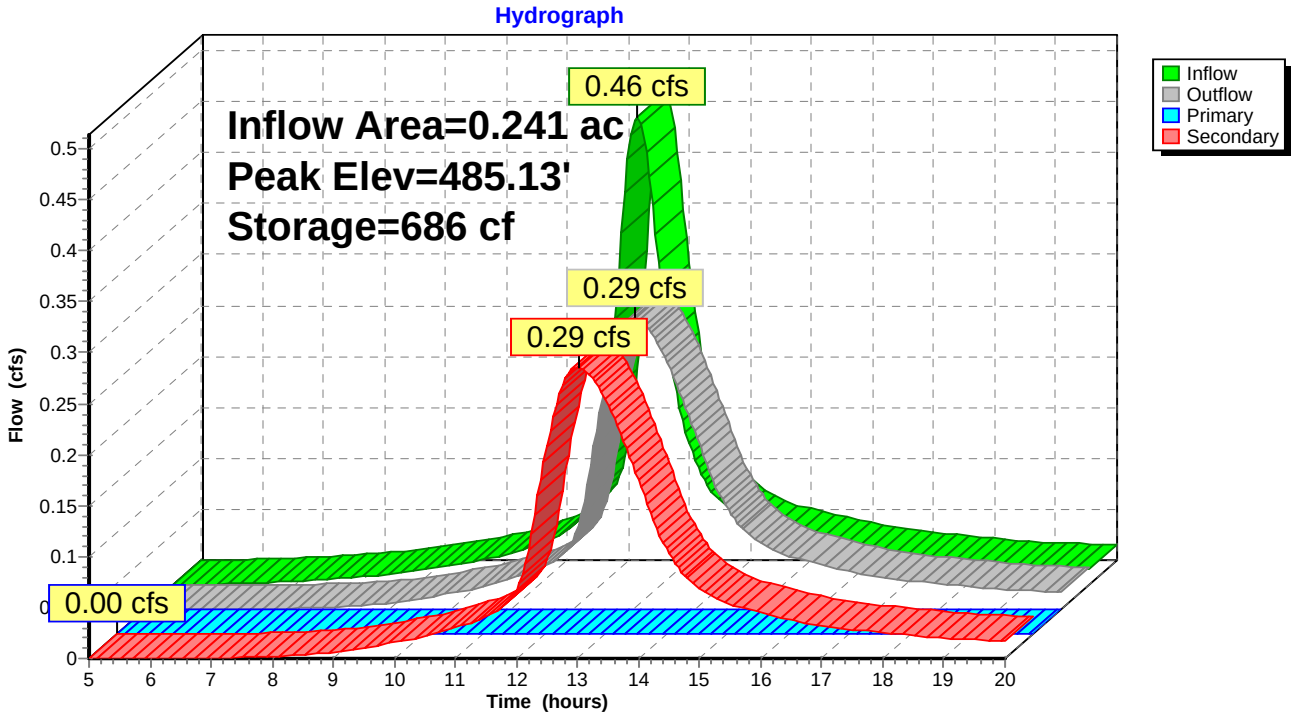
Plug-Flow detention time= 43.5 min calculated for 0.065 af (97% of inflow)
Center-of-Mass det. time= 33.3 min (829.7 - 796.4)

Volume	Invert	Avail.Storage	Storage Description
#1	484.50'	1,941 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
484.50	943	0	0
485.50	1,406	1,175	1,175
486.00	1,660	767	1,941

Device	Routing	Invert	Outlet Devices
#1	Secondary	484.50'	**4.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	485.50'	**6.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=484.50' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Secondary OutFlow Max=0.29 cfs @ 13.01 hrs HW=485.13' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.29 cfs @ 3.28 fps)

Pond SF-1: Soil Filter